DOCUMENT RESUME

ED 383 181 FL 022 963

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TITLE Learner Autonomy through the Use of a Concordancer.
PUB DATE 94
NOTE 26p.; Paper presented at the Meeting of EUROCALL (Karlsruhe, Germany, 1994).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Computer Assisted Instruction; *Computer Software; Error Analysis (Language); Foreign Countries; *Indexes; *Indexing; *Language Patterns; Language Usage; Lexicology; Research Tools; Second Language Instruction; *Second Languages; Student Participation; *Student Research

ABSTRACT

Discussion of the use of computerized concordancers (computer software packages that enable large quantities of text to be searched for all occurrences of a particular lexical item) focuses on their potential as a tool for students to use in learning a second language. In considering the pedagogical value of such tools, three areas are considered. The first is the capability of the concordancer to scan text and make comparisons, isolate collocations, sort occurrences alphabetically, compile word lists, and count word occurrences. The second is the source of electronic text, its preparation for analysis, and selection of software. Several specific programs are compared. The third area for consideration is the type of activities students might undertake with a concordancer. It is recommended that such activities encourage the student to take control of his own learning through purposeful interaction with texts, with the teacher in the role of facilitator of student-initiated research. Possible activities include comparison of the student's errors in written work with examples from authentic text, analysis of collocations, differences in register, support for composition exercises, and investigation of an author's vocabulary usage patterns. A list of related addresses is included. Contains 35 references. (MSE)

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Learner Autonomy Through the Use of a Concordancer

Jon Mills

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Learner Autonomy through the Use of a Concordancer

1 Introduction

A concordancer is a computer software package that enables large quantites of text to be rapidly searched for all the occurrences of a particular lexical item. Each occurrence of that word is then displayed in its context, usually one complete line with the key word centred. In addition, many concordancers perform a number of other, related tasks such as producing wordlists, indices and frequency counts. The concordance is central to corpus linguistics, because it acts as an informant of linguistic usage. It facilitates rapid scanning and comparison. and thereby allows many important language patterns in texts to be accessed. Concordances thus provide evidence about a language that is not easily elicited by any other method. It is not surprising, therefore, that, with the availability of good easy-to-use software and sources of machine readable text, the use of concordance-generating computer software is also becoming increasingly popular in the field language teaching. A concordancer may, on the one hand, be used by the teacher for the preparation of course materials. However this discussion will limit itself to the student's direct employment of a concordancer as a learning resource because this brings about a learner centred approach involving purposeful interaction with texts and selective attention to linguistic features. In considering the pedagogical value of such tools, there are three main areas that need to be considered.

2 Automatic Concordance Generation

First it might be helpful to give a summary of what a concordancer can provide. Concordances can be produced in a variety of formats. KWIC, an acronym for Key Word In Context, is used to refer to a concordance in

which a whole line of text is printed for each occurrence of a word, with the word under examination in the middle. The item under investigation is known as the key word or node. A wide range of linguistic features can be the key word of a concordance. In the following concordance, made from a short newspaper article, the key word is a single item, the definite article.

```
 5 e Players promised to bring the house down with their annual pan
12 islodging a ceiling tile in the new village hall where Jack and
13 village hall where Jack and the beanstalk opened last night. Pla
20 re was no danger to anyone. The cannon was simply too highly cha
26 cartridge but we've now got the right ones. We had dislodged som
30 shifted an inch or two when the cannon went off, nothing more. C
34 opher Ringrose, chairman of the village hall committee who is al
36 ee who is also in charge of the pantomime lighting, denied the b
37  pantomime lighting, denied the blast had caused any damage. No
42 l Disco Services in Redruth the cannon was hired, said he always
47 ves, I issue a message over the PA system. I consider this is a
```

The numbers in the left hand margin, refer to line numbers in the text. By bringing these noun phrases together we get a list of items that serve as props to the story. Even without having read the account in its original form, this short concordance gives a very good idea of what the story is about.

Phrasal studies are among the most interesting opportunities for new research. A collocation of two items, for example, such as *village hall*, may, for example, be the subject of a concordance:

```
12 g a ceiling tile in the new village hall where Jack and the bean
34 r Ringrose, chairman of the village hall committee who is also i
```

Alternatively a search can be done for a morpheme. For example, a concordance of ***ing*** could be used to examine all the gerunds in an English language text.

```
 4 ckhouse Players promised to bring the house down with their annu
12 a finale song, dislodging a ceiling tile in the new village hall
27 ones. We had dislodged some ceiling tiles to install microphones
32 non went off, nothing more. Confirming Mr. Watson's statement, M
11 t off during a finale song, dislodging a ceiling tile in the new
36  in charge of the pantomime lighting, denied the blast had cause
21 oo highly charged but we're using smaller cartridges now. Produc
24 tson said We made a mistake using a wrong cartridge but we've no
```

Of course several words that are not gerunds, such as *bring* and *ceiling*, will also slip through, but they can easily be edited out.

A search can be made for all the inflected forms of a given lemma, such as *be, is, are, was, were, 're.*

```
48  PA system. I consider this is a good idea
35  village hall committee who is also in charge of the pantomime l
 9 unday's technical rehearsal was brought to an abrupt halt when a
42 vices in Redruth the cannon was hired, said he always issued len
18  caused and certainly there was no danger to anyone. The cannon
29  install microphones and it was one of these which shifted an in
20 anger to anyone. The cannon was simply too highly charged but we
16 s. Lynne Smith, said: There was very little damage caused and ce
21 mply too highly charged but we're using smaller cartridges now.
```

Concordances can be sorted in a number of ways. They may be sorted in the order in which the examples occur in the text, as in the examples above. It has been suggested that sorting alphabetically by the right of the keyword is the form that is most generally helpful (Sinclair 1986 : 197). In other words, the words occurring immediately after the keyword are in alphabetical order, *beanstalk, blast, cannon, house*, etc..

```
13 village hall where Jack and the beanstalk opened last night. Pla
37  pantomime lighting, denied the blast had caused any damage. No
42 l Disco Services in Redruth the cannon was hired, said he always
20 re was no danger to anyone. The cannon was simply too highly cha
30 shifted an inch or two when the cannon went off, nothing more. C
 5 e Players promised to bring the house down with their annual pan
12 islodging a ceiling tile in the new village hall where Jack and
47 ves, I issue a message over the PA system. I consider this is a
36 ee who is also in charge of the pantomime lighting, denied the b
26 cartridge but we've now got the right ones. We had dislodged som
34 opher Ringrose, chairman of the village hall committee who is al
```

Notice how this arrangement brings the 3 occurrences of *the cannon* together; *the cannon was hired, the cannon was simply too highly charged, the cannon went off.* These provide a sort of summary of the whole article, and thereby demonstrate the centrality of *the cannon* to the story.

Alternatively a concordance may be sorted alphabetically by the left of the node. In other words, the words occurring immediately before the keyword are in alphabetical order, *and, anyone, bring, denied,* etc..

```
13 village hall where Jack and the beanstalk opened last night. Pla
20 re was no danger to anyone. The cannon was simply too highly cha
 5 e Players promised to bring the house down with their annual pan
37  pantomime lighting, denied the blast had caused any damage. No
26 cartridge but we've now got the right ones. We had dislodged som
12 islodging a ceiling tile in the new village hall where Jack and
34 opher Ringrose, chairman of the village hall committee who is al
36 ee who is also in charge of the pantomime lighting, denied the b
47 ves, I issue a message over the PA system. I consider this is a
42 l Disco Services in Redruth the cannon was hired, said he always
30 shifted an inch or two when the cannon went off, nothing more. C
```

Many concordancing programs will also produce wordlists. Wordlists may be alphabetically arranged, arranged in reverse alphabetical order, or in descending order of frequency. By way of illustration, here are extracts from three wordlists prepared from the same short local newspaper article. The wordlist in descending order of frequency lists the most frequently occurring items first. It can be seen from this example that the articles *the* and *a* are the most frequently occurring items in this sample of text. Their

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number of occurrences are listed as 11 times for the definite article and 8 times for the indefinite article. The first lexical item in the list is, however, *cannon*, which again indicates it as the central theme of this story. The wordlist in alphabetical order speaks for itself; but notice how the reverse alphabetical order list brings suffixes together. In particular we see here all the -ed verb endings brought together.

Descending Order of Frequency		Alphabetical Order		Reverse Alphabetical Order	
the	11	a	8	a	8
a	8	abrupt	1	idea	1
was	6	actually	1	PA	1
to	5	added	1	had	2
cannon	4	also	1	added	1
Mr	4	always	1	dislodged	1
of	4	an	2	charged	1
said	4	and	3	denied	1
and	3	annual	1	opened	1
He	3	any	1	hired	1
I	3	anyone	1	promised	1
in	3	bang	1	caused	2
it	3	beanstalk	1	shifted	1
no	3	blast	1	issued	1
When	3	bring	1	said	4
an	2	brought	1	and	3
but	2	but	2	kind	1
caused	2	cannon	4	good	1
ceiling	2	cartridge	1	made	1
damage	2	cartridges	1	committee	1
down	2	caused	2	damage	2
had	2	ceiling	2	message	1
hall	2	certainly	1	cartridge	1
is	2	chairman	1	charge	1
now	2	charge	1	he	3
off	2	charged	1	the	11
one	2	Christopher	1	mistake	1
pantomime	2	Clockhouse	1	finale	1
Players	2	committee	1	tile	1
rehearsal	2	confetti	1	little	1
there	2	Confirming	1	pantomime	2
these	2	consider	1	some	1
this	2	Cornwall	1	Lynne	1
tiles	2	damage	2	one	2
use	2	danger	1	anyone	1
using	2	denied	1	There	2
village	2	Disco	1	where	1
We	2	dislodged	1	we're	1
went	2	dislodging	1	more	1
with	2	down	2	these	2
abrupt	1	during	1	whose	1
actually	1	explosives	1	Ringrose	1
added	1	fell	1	use	2
also	1	finale	1	house	1
always	1	firm	1	Clockhouse	1
annual	1	from	1	issue	1
any	1	Gary	1	we've	1
anyone	1	goes	1	We	2
bang	1	good	1	off	2

3 Text sources and software

The second area to be considered concerns sources of electronic text and the software to analyse these texts. In order to use a concordancer, it is

necessary to have texts in machine readable form. There are a number of options regarding the preparation of texts. The keying in of texts manually is slow and laborious. However the conversion of printed matter to electronic form can be automated. An optical character reader (OCR) is a device that converts printed text into ASCII format electronic text. The process is rather like using a photocopier but much slower. Alternatively texts can sometimes be obtained already prepared in electronic form from certain publishers, often on CD-ROM. Other sources are the Oxford Text Archive in Britain and Project Gutenberg at Oregon State University in the United States. These serve as international co-ordinating sites for the endeavour to accumulate texts in machine readable form and include many literary texts. There are also a number of publicly available English language corpora, varying in size from around a hundred thousand to a million or more running words. The largest of these, the British National Corpus, consists of 100 million words of spoken and written text representing a wide variety of styles and genres. It comes with its own text analysis and retrieval software, SARA, and is available over the internet - free to the academic community.

The learner may work with an individual text, a general corpus or a specialised corpus (Tribble 1990 : 5; Tribble & Jones 1990 : 15). An individual text is likely to be the subject of a literature class. A general corpus supplies information about the global behaviour of the items under investigation. A specialised corpus, by contrast, provides the student with a picture of how the language is used within a particular genre or register. A collection of academic papers, for example, can provide valuable insight into usage of vocabulary and grammar appropriate to the genre of academic writing. The comparative study of different writers or

analysis of image and metaphor, on the other hand, is permitted by a collection of short stories or poems (see Kirk 1990; Mparutsa *et al.* 1991).

Many students prepare their own essays with a word processor. In this form they are easily adapted for use with a concordancer, so that students can learn directly from both their own and their fellow students' mistakes (Tribble 1990 : 5-6). Concordance analysis may be used to investigate transitivity, tense, order of adverbs, article usage, etc.. The learner's awareness of English is enhanced as s/he becomes involved in the process of exploring the corpus data.

In order to extract data from a corpus and put it to some sort of use, software tools are necessary. A number of applications packages have been specially developed for extracting information from a corpus. If software is to be suitable for use by language learners, it needs to be user friendly. It also needs to be interactive. In other words, it must respond to the user's commands rapidly. If the user has to wait for a long period, say half an hour or more, between entering commands and receiving output, then the concordancer is not really practicable in the classroom situation.

I will start with *OCP* (*Oxford Concordance Program*) and its PC version *Micro-OCP* because they have been widely used by language students (Burgess 1987 : 33; Dodd 1987 : 27; Davidson 1990; Kirk 1990). *Micro-OCP* is a flexible package that can be used to produce word-counts, word-lists, indices, KWIC concordances and statistical information from texts. It can sort word-lists in ascending or descending order of frequency, alphabetical or reverse-alphabetical order. However it is not the most user friendly of the software packages available, nor is it interactive. *WordCruncher* allows a set of parameters to be defined that enable the user to search using a phrase, a list of words, two or more words in a defined context, tag words

for text fields, or any logical combination of these. *MicroConcord* and the *Longman Mini Concordancer* are concordance programs designed with the language learner in mind. They offer the opportunity to study the uses, collocations and meanings of selected items, and the structure of language. Unlimited quantities of text may be investigated at speeds fast enough to make interactive classroom concordancing viable. *MicroConcord* and the *Longman Mini Concordancer* both contain their own selected corpora of texts but can, in addition, be used with other texts. *TACT* is a very easy-to-use interactive concordancer that was devised for literary analysis. It is especially suitable for use by students and also features a collocation generator program that lists all the maximal phrases in a text. For the Macintosh , *Conc 1.70* and *Free Text* are available as freeware.

4 Learner Activities

In the third and final area of this discussion the sort of activities that students might undertake with a concordancer, are surveyed. Faerch and Kasper (1983) suggest that the foreign language learner first forms hypotheses concerning target-language rules and then tests these. In line with this assumption, there have been a number of innovations and rediscoveries in recent years which come under the heading of what might be described as 'discovery learning'. According to this approach, the learner is equated with the researcher who having formed a hypothesis on the premise of intuition or slender evidence, goes on to test, reject or refine this in the light of further evidence (Johns 1988 : 14).

It has been suggested that it is as a learning resource to be used freely by students on their own initiative that the most important potential use of an interactive concordancer lies (Johns 1986 : 161). Electronic text analysis

offers the student the opportunity to take control of his/her own learning by means of purposeful interaction with text(s). Johns (1991) calls this approach 'Data Driven Learning' (DDL). The computer is, thus, not seen as a surrogate teacher but is instead regarded a special kind of informant, which is passive and silent until the learner poses a question. It then responds to the question by providing data that the learner tries to interpret. The higher level skills of inferencing, connecting, interpreting and evaluating are then brought into play and informal acquisition is facilitated in addition to selective attention to linguistic or literary features. Once students are familiar with a concordancer, they may use it as readily as a dictionary to find examples of usage from their chosen corpus of text. Their task, then, is to discover the rules from the examples.

The role of the teacher thus becomes that of director and coordinator of student-initiated research rather than transmitter of knowledge. The teacher is restricted to suggesting points at which it may help to solve learning difficulties. It has been observed that since open-ended uses of the computer utilise the computer as a facility or resource, the type of activity is not pre-determined (Phillips 1987 : 176; Johns 1988 : 11, 14; 1991 : 3). Students' use of a concordancer involves more than looking up facts. A single consultation has a tendency to raise other questions, requiring further concordances, which leads to a kind of conjectural learning. The teacher may feel that s/he is being placed at risk, since this sort of activity may be difficult for the teacher to control and therefore difficult to incorporate into a tightly planned lesson (Higgins 1988 : 43; Johns 1988 : 11). The teacher, therefore, must be prepared to stand back and hand autonomy over to the student.

Errors in students' written work can be dealt with by comparing the items which the students have misused with examples from authentic text. Johns (1986 : 161) describes how he used this method with his students.

> One possibility with which we have experimented is its use in helping students to correct their written work, some mistakes being underlined and a `C' placed in the margin signifying "You have used this word in a way which is different from how an English person would use it: if you get a concordance of the word you should be able to work out a suitable correction for yourself."

It has been observed that overseas students frequently have difficulty remembering word collocation (Fox 1987 : 146). Moreover teachers rarely find collocation errors easy to explain. Overt explanation of collocational rules is not practicable. Nevertheless students could gain an insight into word usage from the set of examples that a concordance provides (Levy 1990 : 178; Johns 1988 : 11-12). Concordances could, for example be obtained for the words *interest* and *depend* in order to ascertain which prepositions normally follow them.

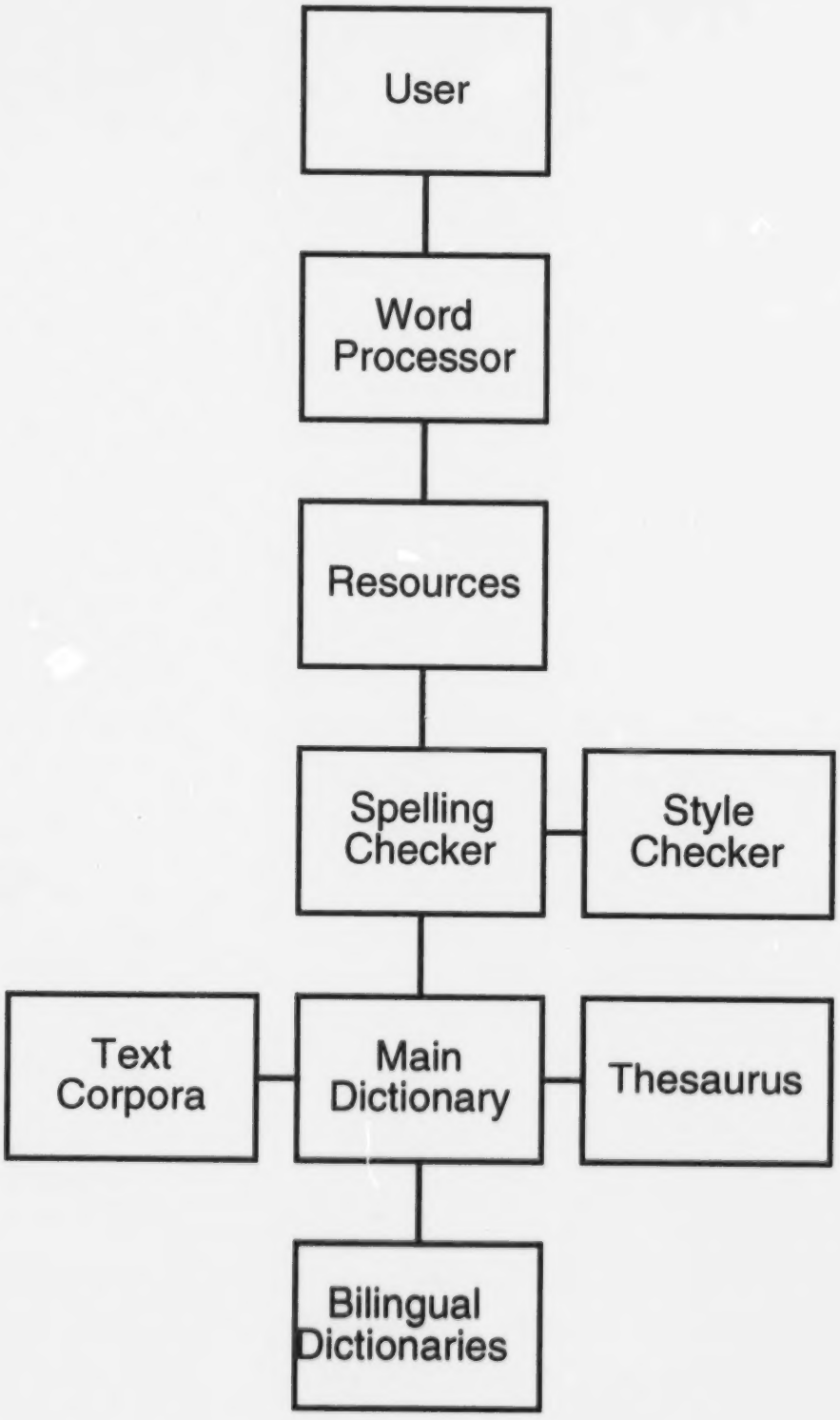
tes of use; and, far from being	**interested** in studying the possibi
e-cream van - children are more	**interested** in ice-cream than in tr
iane, when did you first become	**interested** in politics? <Diane Abb
Diane Abbott:> I've always been	**interested** in politics, as um, far
mbridge, and umm I'm still very	**interested**. I'm just doing a serie
iewer:> One ... one thing which	**interested** me was. um, polite viol
een to nineteen-year-old group,	**depending** on whether her birthday
patterns of living which do not	**depend** on fossil fuels at all or de
epend on fossil fuels at all or	**depend** on them only to a very sligh
egin to get cross or amused. It	**depends** upon their temperament. <I
ge to pay this by direct debit.	**Depending** on when you use it, your
irst applications of fertilizer	**depend** on when the turf was laid. I

(Tribble & Jones 1990 : 38)

Differences in register are another area that students can investigate with text analysis and retrieval software. Kirk (1990) describes a project

undertaken by undergraduate students of English in which different varieties or registers of English were investigated for the frequency distribution of individual features or groups of features among their vocabulary and grammar. Amongst the varieties investigated were the language of reporting in national and provincial daily and Sunday newspapers, a comparison of learned and scientific writings with romantic fiction, 18th century prose, lyrics of contemporary popular song, and spoken and written humour. Kirk concludes that the students involved learnt both about the structure of the vocabulary and syntax of English on the one hand, and about the structure of individual texts and how these could be shown to differ systematically on the basis of frequency bundles on the other hand. Furthermore he found the activity to have been instrumental in constructive personal learning and observed a growth of proficiency in linguistic identification and of understanding of language use. The students got a feel for the nature of empirical enquiry and their understanding of the structure and relationship of texts was enriched.

A concordancer may be used as an accessory to writing. Levy (1990 : 184 *ff.*) sees one use of a concordancer as being integrated into a word processing environment with an on-line spelling checker, grammar checker and thesaurus. The whole system might then be combined in a hypertext environment with the word as the basic link. The following diagram illustrates the concept.



Levy (1990 : 185)

Working with this system students have a variety of options as they write or after they have completed a draft. For example, a student might first consult the thesaurus to find a synonym, secondly cross-check with the dictionary for the meaning and then consult a concordance of the item to observe its usage. The system may be either used to check the student's accuracy of usage or alternatively provide a broader approach to linguistic discovery.

In the field of literary studies, there are a number of approaches regarding the use of a concordancer. It has been suggested that the teaching of literature in ELT encourages personal response to text by increasing students' sensitivity to the linguistic means by which textual affects are achieved. A close focus on the linguistic or stylistic features of text is therefore latent. Within the field of literary studies, the application of electronic text analysis to stylistics is of value to the study of structure, style, prosody and content of texts. It is feasible to draw conclusions about *why* a writer uses words in a certain manner if it is accurately known *how* they use words. It then becomes possible to theorise about how texts achieve their effects. An empirical basis is essential if a theory is to be credible and the computer provides the means to collect data not only more accurately but also for much longer texts than would prove feasible by human endeavour (Phillips 1987 : 176, 181). Working with a group of students of German, Burgess (1987 : 35) observes that concordance work brought awareness of the complexity of the average literary text. The nature of the literary text as a pattern, a composite form made up of recurring elements, dependent for this effect on both content and form is made explicit by such work. Discussion of what can be done with text analysis software involves consideration of the reasons for making

concordances and wordlists, which leads to scrutiny of literary analysis methodology.

Word frequency analyses are well known in the field of authorship studies (Wisbey 1971; Hockey 1980). Electronic text analysis offers statistical investigation of, amongst other things, the size and diversity of an author's vocabulary, or detailed study of single words or small sets of words such as *and* or the use of *on* vs. *upon*. In the first paragraph of Hemmingway's short story *Cat in the Rain* , out of 93 word tokens, only some 8 adjectives, *big, green, good, bright, gravel, long* and *empty* are employed. This feature of Hemmingway's style may be easily discovered by students from a wordlist that they have generated and result in useful class debate of Hemmingway's reasons for deliberately adopting such an ascetic technique (Phillips 1987 : 177).

A descending frequency wordlist may be used to select likely candidates for concordancing. The first lexical item encountered in a descending frequency list is normally found to operate, in some way, at the level of the 'literary device' (Louw 1990 : 166). To illustrate, here is a list for Dylan Thomas' *Fern Hill*.

the	61	with	4	is	2
and	34	fields	3	let	2
i	13	happy	3	light	2
was	13	high	3	like	2
in	11	long	3	lovely	2
of	11	on	3	means	2
as	9	under	3	mercy	2
green	7	young	3	moon	2
to	7	a	2	night	2
it	6	about	2	nothing	2
my	6	apple	2	once	2
that	6	by	2	out	2
time	6	cared	2	over	2
his	5	easy	2	sang	2
all	4	foxes	2	simple	2
among	4	from	2	sky	2
farm	4	grass	2	sleep	2
golden	4	hay	2	so	2
house	4	him	2	white	2
me	4	honoured	2		
sun	4	horses	2		

Word frequency list for Dylan Thomas' *Fern Hill*

The first lexical item encountered is *green*. If a concordance is produced for this item, its metaphorical use becomes apparent.

```
e mercy of his means, And green and golden I was huntsman a
songs Before the children green and golden Follow him out o
ovely and watery And fire green as grass, And nightly under
f his means, Time held me green and dying Though Isang in m
f his means, Time held me green and dying Though Isang in m
nd happy as the grass was green The night above the dingle
warm Out of the whinnying green stable On the fields of pra
```

One approach requires literature students to examine an argument or set of arguments found in critical literature and use a concordancer to check their validity. The study of thematic patterns or recurrent images in literature may be aided by data concerning the distribution of selected words throughout a given text. For example, Humphreys (1984 : 48), in a discussion of the language of Shakespeare's *Julius Caesar*, maintains that "Blood likewise figures symbolically in many guises - the blood of noble

race, the life-stream of heroic figures, the guarantee of Roman quality ...". By means of a text analysis and retrieval program, a student could produce a concordance of the words *blood* and *bloody* to verify Humphreys' assertion (Davidson 1990 : 81, 84).

```
215   n triumph over Pompey's blood? Be gone!  Run to your houses, fa
1161  ath; when every drop of blood  That every Roman bears, and nobl
1205  irit of men there is no blood:  O, that we then could come by C
1487  of war,  Which drizzled blood upon the Capitol;  The noise of b
1567  d spouts,  Did run pure blood: and many lusty Romans  Came smil
1575  :  Your statue spouting blood in many pipes,  In which so many
1578  me shall suck  Reviving blood, and that great men shall press
1864  rtesies  Might fire the blood of ordinary men,  And turn pre-or
1867  Caesar bears such rebel blood  That will be thaw'd from the tru
1900    And men are flesh and blood, and apprehensive;  Yet in the nu
1973  e our hands in Caesar's blood  Up to the elbows, and besmear ou
2043  ,  Who else must be let blood, who else is rank:  If I myself,
2047  ch  With the most noble blood of all this world.  I do beseech
2097  s they stream forth thy blood,  It would become me better than
2178  d that shed this costly blood!  Over thy wounds now do I prophe
2185  ll the parts of Italy;  Blood and destruction shall be so in us
2462  r napkins in his sacred blood,  Yea, beg a hair of him for memo
2526  eel away,  Mark how the blood of Caesar follow'd it,  As rushin
2537  hich all the while ran  blood, great Caesar fell.  O, what a fa
2581   speech,  To stir men's blood: I only speak right on;  I tell y
3055   my heart,  And drop my blood for drachmas, than to wring  From
3112  rutus,  When grief, and blood ill-temper'd, vexeth him?  BRUTUS
3426   devil,  That makest my blood cold and my hair to stare?  Speak
3854  o-night,  So in his red blood Cassius' day is set;  The sun of
884    we have in hand,  Most bloody, fiery, and most terrible.  CASC
1199  ur course will seem too bloody, Caius Cassius,  To cut the head
2057  ough now we must appear bloody and cruel,  As, by our hands and
2080   each man render me his bloody hand:  First, Marcus Brutus, wil
2094  his peace,  Shaking the bloody fingers of thy foes,  Most noble
2249  he cruel issue of these bloody men;  According to the which, th
2540  f us fell down,  Whilst bloody treason flourish'd over us.  O,
2555  !  First Citizen O most bloody sight!  Second Citizen We will b
2880   they should endure the bloody spur,  They fall their crests, a
3531  in gallant show;  Their bloody sign of battle is hung out,  And
```

The development of a given type of imagery in, for instance, a Shakespeare play, could be traced in this manner. One could, for example, produce a concordance of all the examples of eye imagery in King Lear, with each occurrence cited according to its line number (Phillips 1987 : 181).

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```
187   he matter;  Dearer than eye-sight, space, and liberty;  Beyond
327   he true blank of thine  eye.  KING LEAR Now, by Apollo,--  KENT
447   er,  A still-soliciting eye, and such a tongue  As I am glad I
3046  nd the pin, squints the eye, and makes the  hare-lip; mildews t
3566  ! My lord, you have one eye left  To see some mischief on him
3856  ast not in thy brows an eye discerning  Thine honour from thy s
3886  g to put out  The other eye of Gloucester.  ALBANY Gloucester's
3888  r.  ALBANY Gloucester's eye!  Messenger A servant that he bred,
3900  ter!  Lost he his other eye?  Messenger Both, both, my lord.  T
4056  ,  And bring him to our eye.   [Exit an Officer]        What ca
4068  e power  Will close the eye of anguish.  CORDELIA All blest sec
5135  RIL Holla, holla!  That eye that told you so look'd but a-squin
500   our father, with wash'd eyes  Cordelia leaves you: I know you w
1249  eak thus? Where are his eyes?  Either his notion weakens, his d
1363  se about thee! Old fond eyes,  Beweep this cause again, I'll pl
1435  s.  ALBANY How far your eyes may pierce I can not tell:  Strivi
1491  ol Why, to keep one's  eyes of either side's nose; that  what
2032  d,  Take vantage, heavy eyes, not to behold  This shameful lodg
2194   noses are led by their eyes but blind men; and  there's not a
2368  ames  Into her scornful eyes! Infect her beauty,  You fen-suck'
2377   o'er to harshness: her eyes are fierce; but thine  Do comfort
3259  d glares!  Wantest thou eyes at trial, madam?  Come o'er the bo
3423    GONERIL Pluck out his eyes.  CORNWALL Leave him to my displea
3525  Pluck out his poor old  eyes; nor thy fierce sister  In his ano
3537   the chair.  Upon these eyes of thine I'll set my foot.  GLOUCE
3656  , and therefore want no eyes;  I stumbled when I saw: full oft
3662   touch,  I'ld say I had eyes again!  Old Man How now! Who's the
3725   must.--Bless thy sweet eyes, they bleed.  GLOUCESTER Know'st t
3914   when they did take his eyes?  Messenger Come with my lady hith
3930  ,  And to revenge thine eyes. Come hither, friend:  Tell me wha
3979  hat guests were in her  eyes; which parted thence,  As pearls f
3991  water from her heavenly eyes,  And clamour moisten'd: then away
4126  ignorance, Gloucester's eyes being out,  To let him live: where
4213  zzy 'tis, to cast one's eyes so low!  The crows and choughs tha
4282  CESTER Alack, I have no eyes.  Is wretchedness deprived that be
4299  re below, methought his eyes  Were two full moons; he had a tho
4387  G LEAR I remember thine eyes well enough. Dost thou squiny  at
4399   What, with the case of eyes?  KING LEAR O, ho, are you there w
4401  e you there with me? No eyes in your  head, nor no money in you
4402  ney in your purse? Your eyes are in  a heavy case, your purse i
4409  his world goes  with no eyes. Look with thine ears: see how yon
4430  's lips. Get thee glass eyes;  And like a scurvy politician, se
4437  ep my fortunes, take my eyes.  I know thee well enough; thy nam
4466  an of salt,  To use his eyes for garden water-pots,  Ay, and la
5054   like foxes. Wipe thine eyes;  The good-years shall devour them
5101  impress'd lances in our eyes  Which do command them. With him I
5327  ee he got  Cost him his eyes.  EDMUND                  Thou ha
5476  Had I your tongues and  eyes, I'ld use them so  That heaven's v
5512   me. Who are you?  Mine eyes are not o' the best: I'll tell you
```

Certain themes throughout a particular play could be traced by calling up all the verses in which certain keywords crop up. Phillips (1987 : 181-2) shows how a KWIC concordance of the *-ing* form of the verb can be used

as a powerful tool in the stylistic analysis of Hemmingway's *Cat in the Rain* .

had a momentary feeling of being	of supreme importance. Sh
an in a rubber cape was crossing	the empty square to the c
ouched under one of the dripping	green tables. The cat was
m was on the second floor facing	the sea. It also faced th
ght colours of the hotels facing	the gardens and the sea.
nt. She had a momentary feeling	of being of supreme impor
and looked out. It was getting	dark.`I want to pull my
sent her. With the maid holding	the umbrella over her, sh
heavy face and big hands. Liking	him she opened the door a
cat'. George was not listening.	He was reading his book.
the cafe a waiter stood looking	out at the empty square.
wife stood at the window looking	out. Outside right under
r of the dressing-table, looking	at herself with the hand
ir grow out?' she asked, looking	at her profile again. Geo
aid. `I get so tired of looking	like a boy.' George shift
ing again. His wife was looking	out of the window. It was
e husband went on reading, lying	propped up with two pi
get the cat?' he asked, putting	the book down. `It was go
ned in the rain. It was raining.	The rain driped from th
and looked out. It was raining	harder. A man in a rubber
was quite dark and still raining	in the palm trees. `Anywa
e'. The husband went on reading,	lying propped up with the
. George was on the bed reading.	`Did you get the cat?' h
d, resting his eyes from reading.	Sge sat down on the bed.
n the rain.' George was reading	again. She went over and
d,' George said. He was reading	again. His wife was looki
s not listening. He was reading	his book. His wife looked
. `Oh shut up and get something	to read,' George said. He
t get wet', she smiled, speaking	Italian. Of course, the h
were only two Americans stopping	at the hotel. They did no
reen tables. The cat was trying	to make herself so compac

Together the words `looking' and `reading' account for 13 out of 31 citations or 42%. The word `looking' has a marked association with the female character and `reading' with the husband. Phillips suggests that this possibly indicates that the wife is confined to the passive role of observer of life because the husband is too involved in his reading and therefore pays too little attention to his wife.

In one final example, Misek-Falkoff (1983 : 2-6) discusses the concordancing of theme words such as *love, hope* and *fear.* The following is a concordance of the word *love* , spoken by the character Eve, in Milton's *Paradise Lost.*

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nswering looks | Of symapathy and	love:	There I had fixed | Mine eyes	EVE	85
y in out mutual help | And mutual	love,	the crown of all our bliss |	AD&EVE	107
qual fear, that my firm faith and	love	| Can by his fraud be shaken	EVE	340
n the event. | And what is faith,	love,	virtue, unassayed | Alone, wi	EVE	344
female sex, the more to draw his	love,	| And render me more equal; a	EVE	373
me in bliss or woe: | So dear I	love	him, that with him all deaths	EVE	373
deprived | Thy presence: agony of	love	till now | Not felt, nor shal	EVE	375
May join us, equal joy, as equal	love:	| Lest, thou not tasting, dif	EVE	375
| O glorious trial of exceeding	love,	| Illustrious evidence, examp	EVE	383
, | Shall separate us, linked in	love	so dear, | To undergo with me	EVE	383
esented | This happy trial of thy	love,	which else | So eminently nev	EVE	383
te of thy so true, | So faithful,	love	unequalled: but I feel | Far	EVE	383
us. Adam: witness Heaven | What	love	sincere, and reverence in my	EVE	450
ceptance, hopeful to regain | Thy	love,	the sole contment of my heart	EVE	454

Misek-Falkoff (1983 : 6) observes that Eve's use of *love* alters rapidly after the fall, before which it is coupled with *faith* (stanza 340) and after which it pairs with *agony* (stanza 375).

5 Conclusion

The possibilities for increased learner autonomy that electronic text analysis provides have far reaching implications for language pedagogy. Old convictions, such as the centrality of the syllabus, begin to fade. In any given educational setting, a decision has to be made as to what extent students can take charge of their own learning.

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Appendix
Some Useful Addresses

British National Corpus Oxford University Press, Walton Street, Oxford OX2 6DP. Tel.: 0865 56767. Fax: 0865 56646. E-mail: natcorp@uk.ac.ox.vax.

Conc 1.71 is available as freeware from the International Academic Bookstore, Summer Institute of Linguistics, 7500 W. Camp Wisdom Road, Dallas, TX 75236,USA. Tel. 214-709-2404; Fax: 214-709-2433; E-mail: academic.books@sil.org. It can also be downloaded by anonymous ftp. Contact lexical@nmsu.edu for details.

Electronic Text Library Janet Caldwell Publishing, Oxford University Press, Walton Street, Oxford OX2 6DP. Tel.: 0865 56767.

English Poetry Full Text Database on CD-ROM Chadwyck-Healet Ltd., Cambridge Place, Cambridge CB2 1NR. Tel.: 0223 311479.

International Corpus of English Project Professor Sidney Greenbaum, Director, Department of English, University College London, Gower Street, London WC1E 6BT. Tel.: 071 387 7050 ext 3121. E-mail: ucleseu@uk.ac.ucl.

Machine Readable Spoken English Corpus Gerry Knowles, Dept. of Linguistics and Modern English Language, Lancaster University, Lancaster LA1 4YT. Tel.: 0524 65201 ext 3023. Fax: 0524 843085. E-mail: eia008@uk.ac.lancaster.central.

Oxford Text Archive contact Lou Burnard, Oxford University Computing Services, 13 Banbury Road, Oxford OX2 6NN. Tel.: 0865 273238. Fax: 0865 273275. E-mail: archive@uk.ac.ox.vax.

Project Gutenberg general enquiries to Project Gutenberg Director of Communication, E-mail: dircompg@ux1.cso.uiuc.edu

TACT text-retrieval and concordance application is available by FTP as /pub/cch/tact/tact2.1gamma on <epas@ utoronto.ca>. Disks with an obsolete printed manual are about $22 from the Centre for Computing in the Humanities , Robarts Library, Room 14297A, 4 Bancroft Ave., Toronto, ON M5S 1A5, Canada <cch@epas.utoronto. ca>. Ask Ian Lancashire (ian@epas.utoronto.ca) about the TACT-L@utoronto.bitnet discussion group.

Text Encoding Initiative contact Lou Burnard, Oxford University Computing Services, 13 Banbury Road, Oxford OX2 6NN. Tel.: 0865 273238. Fax: 0865 273275. E-mail: lou@uk.ac.ox.vax.

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Longman Mini Concordancer Computer software. Harlow:Longman Group Ltd. . IBM PC or compatible.

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Micro OCP Computer software. Oxford: Oxford Electronic Publishing. IBM PC, XT, AT or PS/2 or compatible with minimum 512K RAM and hard disk.

MicroConcord Computer software. Oxford: OUP. IBM PC, XT, AT or PS/2 or compatible with minimum 175K RAM, hard disk and MS-DOS 2.11 or higher.

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